Online Presence of Reproductive Health Advocacy Campaign Organisations and Knowledge of Sickle Cell Disease among Undergraduates of Two Private Universities in Oyo State

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Abstract

Nigeria is one of the epicenters of Sickle Cell Disease (SCD) with substantial cases. Globally, lack of knowledge of SCD especially people within the reproductive age is frequently attributed to the increase in recorded cases of SCD. Therefore, this study investigates the online presence of reproductive health advocacy campaign organisations and knowledge of sickle cell disease among undergraduates of two private universities in Oyo State. The study is anchored on Information Processing Theory; it adopted an exploratory sequential research design involving content analysis and descriptive survey research design. Qualitative data involved ten health advocacy organisations; through content analysis using non/frequency counts and contingency data analysis; quantitative data collection involved a sample of 323 undergraduates of Lead City University and Kola Daisi University using a self-developed 'Social Media Sickle Cell Advocacy Campaign Questionnaire' administered on *Google* forms and analysed using descriptive and inferential statistics, findings revealed that ten advocacy organisations have online presence majorly on *Twitter* (70%), *Instagram* (70%) and *Facebook* (70%); fully involved in providing online support services through informative sharing of educational contents, research findings, organising conferences and fundraising. Findings further revealed that the majority of the undergraduates have a good knowledge of SCD which suggested that online advocacy campaigns effectively enhance their knowledge. Again, there was a significant relationship between social media advocacy campaigns and the level of knowledge of SCD (0.701; P=0.000). The study concludes that social media platforms are potential and powerful tools for disseminating health information and suggests its intensive and proactive use among young people.

Keywords: Advocacy campaign organisations, Knowledge, Online presence, Private University Undergraduates, Reproductive health, Sickle Cell Disease

Word count: 250

Introduction

Sickle cell disorder is an inherited red blood cell condition that primarily affects people of African heritage, Mediterranean, Caribbean, South and Central American, Arab, and East Indian communities. Annually, it is estimated all around the world that 300,000 children are born with sickle cell disorder with Sub-Saharan Africa accounting for more than 75 percent of such cases (Faremi, Olatubi & Lawal, 2018). Even though, in the past there have been several myths about Sickle cell disorder in Nigeria; for instance in Yoruba land, children who were feeble and constantly sick were called "*Abiku*" which means "born-to-die" and among the Igbos they were called "*Ogbanje*" which means "children who-come-and-go". Hence, sickle cell disorder was believed traditionally, to be a mysterious ailment that was brought upon a family as a punishment from the gods. However, most of the cultural and spiritual beliefs as well as interpretations have no scientific basis.

Nigeria leads the rest of the world in the number of cases of sickle cell disorder; for instance, Sarah, Lindsey, Ifigenia, Anya, Soumitri and

Carlton (2018) reported that out of the estimated 150,000 babies that are born annually in Nigeria, only 5% of such children live up to the age of 11 as 70-90% die before age of five and it has mainly been attributed to the lack of awareness about the prevention and management of the disorder. This implies that with the current situation in Nigeria, one in two babies is born with sickle cell disorder. In 2021, the Nigerian Senate passed its second reading of a bill mandating genetic testing before marriage to establish the legal framework for the prevention, control, and management of the continuous spread of the disorder, as well as to avoid early deaths and excessive medical expenses.

This is a direct response to previous studies conducted within the purview of reproductive health, one such study has revealed that despite the awareness created of sickle cell disorder, many individuals still have unsatisfactory knowledge of the disease conditions especially young people in Nigerian society (Uche, Olowoselu, Augustine, Ismail, Akinbami, Dosunmu & Balogun, 2017). The authors therefore advocated that the younger generation must have a good understanding of genetic compatibility among potential couples as future parents. Coincidentally, the majority of undergraduate students in tertiary institutions and several others in other higher institutions in Nigeria who fall within the reproductive age usually go into relationships that may lead to marriage or unintended pregnancies.

The mass media have been a primary source of health information for preventive medicine and health promotion (Otunla and Alabi, 2023). The media may not tell people what to think, but it certainly influences what people think about through advocacy campaigns. Implying that the media remains one of the potential tools to reach different strata of the populace for behavioural change communication. Moreover, the mass media can amplify voices through the strategic use of media advocacy, such that policymakers would not be able to ignore them. Media advocacy is the purposeful use of the media to publicly support a cause and advocate for policy change. Again, media advocacy focuses on influencing the behaviour of individuals and policymakers whose decisions structure the environment.

Hunter, De La Haye, Murray, Badham, Valente, Clarke, and Kee (2019) reports that over the decades, public health professionals have relied heavily on traditional methods of mass communication such as radio and television, newspapers and magazines among others; and more recently, the Internet which include most especially, social media, websites, blogs and wikis for the promotion of health advocacy programmes geared towards information dissemination. These are part of the proof that new media could significantly contribute to health awareness and promotion, and as such become an important medium for health advocacy and promotion under the broad field of health communication. Further, Stellefson, Paige, Chaney, and Chaney (2020) postulate that traditional advocacy strategies can be supplemented with social media channels to influence policy priorities in support of health policies.

Hence, the mass media, especially the news media including social media channels play a vital role in promoting democratic debate and other pressing issues in society such as environmental and public health issues, and gender violence among others. The use of social media for advocacy campaigns, especially those about public health has rapidly increased due to its ability to solve the problem of physical barriers that obstruct access to health education, medical care, and support services. Thus, advocacy campaigns through various social media platforms are tools for sensitization, mobilization, enlightening, and educating the general public on health issues. Furthermore, social media tools give public officials, many of whom have their own social media handles, chat rooms, and blogs as well as websites that create opportunities to access wider related information about health policy issues that affect their constituents.

For instance, Mathison (2017) submits that social media helps campaign activities of health advocacy organisations by broadening the reach and impact on the campaigns' critical agenda such as connecting advocacy agencies with critical stakeholders like lawmakers (who use social media) and connecting them with the concerned reporters and citizen journalists (who searches and uses digital and social media platforms as their main sources of news gathering). Thereafter, such media personnel distribute such important messages through the effective use of online and digital applications that increase public exposure to the grassroots and mainstream campaigns, thereby bringing more attention to the advocacy causes. Therefore, Mathison (2017) believes that social media platforms such as *Facebook* and *Twitter (X)* can reach far more people than traditional media; even though social media interaction is regarded as the first step in a ladder of engagement, this is because only a small percentage of people who express interest in a cause through online are willing to commit to offline actions.

Consequently, Hunter, De La Haye, Murray, Badham, Valente, Clarke, and Kee (2019) note that such media technologies provide digital platforms for raising awareness and mobilizing support for health policy advocacy, thus, health educators and media advocates must work to advocate activities that result in social change through advocacy initiatives. Social media advocacy as a strategy entails that media advocates leverage their relationships with people who are supporters of their advocacy initiatives through social media so that they help share their enthusiasm for a particular health, cultural, or socioeconomic cause. In most cases, people in that category include influencers, consumers, celebrities, media advocates, opinion leaders, and public figures.

Again, Wang and Yang (2020) report that social media remains one of the digital tools often used by media advocates because of the interactive features and widespread adoption whereby, users can quickly disseminate such highly impactful health advocacy information to rally for support from the public. Invariably, social media enables advocates to reach a larger audience as it provides a platform for developing two-way communication with the public that facilitates active participation in advocacy campaigns more than ever before. Furthermore, the authors observe that third-party cheerleaders, known as brand advocates, are used in social media advocacy to promote an organisation or a cause through their social media channels (Wang & Yang, 2020). It is noteworthy that successful social media campaigns will show supporters (*Netizens*) that there are other ways to participate and be fully involved in a life-changing or behavioural process that is commonly projected through health media advocacy campaigns.

Bou-Karroum, El-Jardali, Hemadi, Faraj, Ojha, Shahrour, Darzi, Ali, Doumit, Langlois, and Melki, (2017) in a report from their study on the relationship between social media advocacy and health communication revealed that social media improves user interaction, offers peer support, and broadens access to health interventions. The authors further attest that social media also adds a new dimension to healthcare service delivery by providing an interface through digital platforms for the public, most especially patients to exchange useful information on various health issues with and among health professionals.

This goes a long way to positively affect population and reproductive health outcomes and well-being. It implies that while traditional media; particularly television and radio continue to have a large audience, the influence of social media is growing and cannot be ignored. Therefore, the new media is a powerful tool for spreading health and wellness information, as it remains critical in the public response to any form of pandemic because it serves as a formidable channel for public communication among inter-governmental agencies, international and national health institutions, and the general public at large. This is because, the new media channels have evolved into portals through which the public seeks accurate information, scientifically sound facts, government policies, and decisions on important public health emergencies and public reactions such as during the COVID-19 pandemic that ravaged the entire world in the most of year 2020.

Consequently, Mheidly and Fares (2020) affirm that during public health emergencies, people's actions and reactions to a pandemic such as the recent COVID-19 pandemic are shaped by the online information they gather as recipients or receivers. However, the authors caution that the effectiveness of social media channels' utilitarian roles in the deployment of health communication depends on strong and persuasive written, verbal, and visual communication messages. Such messages are conveyed using appropriate strategies based on tested theories and principles that can influence public views and perceptions that in turn translate to change in the public intentions and attitudes as well as influencing their health behaviours arising from informed decisions (Mheidly & Fares, 2020). Therefore, media advocacy programmes that depend on new media channels, such as social media cannot on their own be effective except such campaigns are strategically planned to effectively influence health behaviours.

Moreover, media advocates rely so much on relevant media theories and persuasive approaches for copywriting especially, when developing advertising messages, packages, and products. Hence, this study is anchored on Information Processing Theory which is a cognitive theory that uses computer processing as a metaphor for how the human brain functions. The theory was first proposed by George A. Miller in the 1950s; aside from Miller, other American psychologists who are also associated with the Information Processing Theory include; John William Atkinson and Richard Shiffrin (Lawless, 2019). Information processing theory explains not only how information is captured, but also how it is stored and retrieved; the process begins with receiving input from the environment, also known as stimulus, through various senses.

The theory describes how people focus on information encode the contents of such information in their memories and later filter the information within the human brains. Hence, Information Processing Theory argues that long-term memory formation occurs in stages. First, an individual perceives something through his/her sensory memory, which includes everything an individual, can see, hear, feel, or taste in a given or particular moment. Whereas, short-term memory is what an individual uses to bring into remembrance things for very short periods, such as a phone number, and long-term memory is stored permanently in the human brain (Lawless, 2019). Again, Vinney (2020) states that the information process involves what an individual is paying attention to at a particular moment what gets stored in the short-term or the working memory, and finally, what gets stored in the individual's long-term memory. Thereafter, the information in the media product as contents; in the form of a message, idea, slogan, caption or generally termed as input is then described and saved in the human memory, from where it can be retrieved when needed (Vinney, 2020).

Information Processing Theory is relevant to this study in that it offers a formula for ensuring that the audience or people who are the targets of any advocacy programme must gain more than a passing knowledge of the health information or public enlightenment from the media contents in the advocacy materials that are presented to them. This implies that advocacy programmes must be well packaged to ensure that the message encoded through the use of social media channels gets into the recipients' short-term memory; as well as its entry into the long-term memory for ease of recall whenever such messages are needed for taking informed decision and action regarding their wellness and health conditions. Typically, utilizing repetition of advocacy campaign messages, delivering messages in simple terms which are easy to understand, and organizing interactive programmes via social media, online digital platforms; websites and blogs would help advocates spread health awareness and medical knowledge about sickle cell disorder and to ensure it gets embedded in the long-term memories of the recipients within the reproductive ages.

Statement of the Problem

Over the years, the erroneous impressions from African traditional beliefs and indigenous socio-cultural perspectives about the causes of Sickle Cell Disorder among Nigerians have been eroded as a result of concerted efforts through media advocacies. Such efforts come from healthcare practitioners who are serving as advocates in both rural and urban areas in various parts of the country. Thus, the myths have started to be slowly replaced by the correct knowledge of sickle cell disease and how to prevent and curtail it. However, despite the constant public awareness about the causes and dangers of the disorder, there is still an increase in the number of children born with sickle cell disease daily. For instance, youths within the reproductive ages especially those in higher institutions such as universities get married or have children without considering the genotype compatibility of their partners. Presumably, such narratives may be largely because while some youths are aware and well-informed about the causes and implications of sickle cell disorder, some others have very little knowledge about it, while some are completely oblivious about it.

Previous studies have reported deployments of many approaches and strategies to broaden the knowledge and create awareness about sickle cell disease, especially among the people within the vulnerable ages; all with varied levels of success. One of the new media strategies is the use of social media advocacy campaigns by both non-governmental organisations in Nigeria. Hence, there arose concerns and questions about; the non-governmental organisations that are involved in social media advocacy campaigns on sickle cell disease in Nigeria, what are the advocacy campaign strategies and activities on sickle cell, and lastly, what is the impact of the advocacy campaigns among the young people in Nigeria? Therefore, this study investigates the online presence of Nigerian reproductive health advocacy campaign organisations and knowledge of sickle cell disease among undergraduates of two private universities in Oyo State.

Aim and Objectives of the study

This study aims to investigate the online presence of Nigerian reproductive health advocacy campaign organisations and knowledge of sickle cell disease among undergraduates of two private universities in Oyo State. The specific objectives that would guide the study are to;

1. identify the non-governmental organisations that are involved in social media advocacy campaigns on sickle cell disease in Nigeria and their online presence.
2. ascertain the social media advocacy campaign activities of non-governmental organisations that are related to sickle cell disease in Nigeria.
3. determine the influence of social media advocacy campaigns on the level of knowledge of sickle cell disease among undergraduates of Lead City University and Kola Daisi University.

Research Questions

1. What are the non-governmental organisations that are involved in social media advocacy campaigns on sickle cell disease in Nigeria and their online presence?
2. What are the social media advocacy campaign activities of non-governmental organisations that are related to sickle cell disease in Nigeria?

Hypothesis

Ho1. There would be no significant influence of social media advocacy campaigns on the level of knowledge of sickle cell disease among undergraduates of Lead City University and Kola Daisi University.

Methodology

The study adopted an exploratory sequential research design which involves content analysis and descriptive survey research design. The sample involved a total of ten advocacy organisations and 323 undergraduates of Lead City University and Kola Daisi University The sample for the study was determined using Taro Yamane's Formula. Data was collected online via *Google* Forms using a self-developed questionnaire named: Social Media Sickle Cell Advocacy Campaign Questionnaire (SoMeSCACQ).

Data collected through content analysis was processed using frequency, counts non-frequency, and contingency analysis while data for demographic information and the significant influence of social media advocacy campaigns on the level of knowledge of sickle cell disease among undergraduates was inputted into the computer system and coded on Statistical Package for Social Sciences (SPSS) software Version 23.0 and analysed using frequency counts, percentages and Pearson Product Correlation Statistics (tested at the 0.05 level of significance). Table 1 presents the demographic distribution of respondents.

Table 1: Distribution of Respondents by Gender, Age, Genotype. and Academic Level (N=323)

Demographic Variable		**Frequency (n)**	**Percentage (%)**
Gender	Female	192	59.4
	Male	131	40.6
Age	16-18 years	98	30.3
	19-21 years	92	25.8
	22-25 years	133	41.1

Genotype	AA	216	66.9
	AC	11	3.4
	AS	68	21.1
	SC	6	1.9
	SS	22	6.8
Academic level	100 level	43	13.3
	200 level	48	14.9
	300 level	38	11.8
	400 level	58	18.0
	500 level	135	42.0

Source: Fieldwork, 2022

Findings from Table 1 reveal that most of the undergraduate students are between 25-30 years of age. Further, in terms of their genotype, the majority of the students, 66.9% (216) are AA, 21.1% (86) are AS, 6.8% (22) are SS, 3.4% (11) are AC, while 1.9% (6) of the undergraduate students are SC. The finding suggests that a majority of the respondents (undergraduate students) have an AA genotype. Also, in terms of their academic level, the majority 42% (135) of the students are in the 500 level, 8% (58) are in 400 level, 14.9% (48) are in 200 level, 13.3% (43) are in 100 level, while 11.8% (38) of the undergraduate students are in 300 level, which is an indication that majority of the students are in their final year (500 level).

Results and Discussion of Findings

Research Question One: What are the non-governmental organisations that are involved in social media advocacy campaigns on sickle cell disease in Nigeria and their online presence?

In finding answers to research question one, content analysis was carried out on the relevant websites of reproductive health advocacy campaign organisations in Nigeria as presented in Table 2.

Table 2: Online Presence of Non-governmental Health Organisations that are involved in Social Media Advocacy Campaigns on Sickle Cell Disease in Nigeria

Name of Organisation	Year of Establishment	Online Presence on Social Media Platforms and Followership
Sickle Cell Foundation Nigeria	1994	*Instagram* (7641), *Twitter* (2453) and *Facebook*
Sickle Cell Support Society of Nigeria	2010	*Twitter* (270)
Centre of Excellence in Sickle Cell Research and Training.	2017	*Twitter* (45) *Instagram* (15)
Sickle Cell Disorder Genomics Network of Africa	2019	*Facebook, Twitter* (287), *Instagram* (242), *YouTube* (20).
Sickle Cell Cohort Research	2013	*Facebook, Instagram* (211).
The African Sickle Cell Research Network	2013	
Samira Sanusi Sickle Cell Foundation	2014	*Facebook, Twitter*(3909), *Instagram* (4370), *WhatsApp*
Sparkle for Sickle Cell Foundation	2018	*Instagram* (8353)
Sickle Cell Aid Foundation	2010	*Facebook, Instagram* (16500), *Twitter* (5745), *YouTube* (26)
Sickle Cell 101 Foundation	(NA)	*Facebook, Twitter* (5031), *Instagram* (31500), *YouTube* (1008).

Source: Fieldwork, 2022

Findings from Table 2 revealed that some non-governmental organisations are involved in social media advocacy campaigns on sickle cell disease in Nigeria. Hence, ten non-governmental health advocacy orgaanisations are involved in social media advocacy campaigns on sickle cell disease in Nigeria. The oldest among them is the Sickle Cell Foundation Nigeria was established in 1994, others were established between 2010 and 2019 and there was no record of the year of establishment of the Sickle Cell 101 Foundation.

Also, the online presence of the reproductive health advocacy campaign organisations in Nigeria carry out their advocacy campaign activities largely on popular social media platforms; which include *Twitter* (70%), *Instagram* (70%), *Facebook* (60%), *WhatsApp* (10%) and *YouTube* (30%).

In summary, there are ten reproductive health advocacy campaign organisations in Nigeria with online presence majorly on three popular social media platforms namely; *Twitter*, *Instagram*, and *Facebook*.

Research Question Two: What are the social media advocacy campaign activities of non-governmental organisations that are related to sickle cell disease in Nigeria?

Table 3: Social Media Advocacy Campaign Activities of Non-Governmental Organisations that are related to Sickle Cell Disease in Nigeria

S/N	Name of Organisation	Offline Advocacy Campaigns	Social Media Advocacy Campaign Activities
1	Sickle Cell Foundation Nigeria	• Organising Conferences, • Public lectures, • Genetic counseling courses, • Press briefings.	• Posting of informative and educational photos, and videos. • Organizing online conferences.
2	Sickle Cell Support Society of Nigeria	• Development of management guidelines for sickle cell	• Clinical research, • Capacity building for sickle cell patients and • Advocacy
3	Centre of Excellence in Sickle Cell Research and Training.	• Creating guidelines for Comprehensive management of sickle cell	• Sharing research findings; • Aimed at the control of sickle cell
4	Sickle Cell Disorder Genomics Network of Africa	• Sickle cell lectures, Symposiums, • Genetic counseling programmes.	• Sharing of comprehensive; • Research findings.

5	Sickle Cell Cohort Research	• Organising conferences	• Virtual conferences; and • Webinars
6	The African Sickle Cell Research Network	• Sickle cell research and • Sharing of research findings	• Sharing of research findings
7	Samira Sanus i Sickle Cell Foundation	• Fundraising for the care of sickle cell patients, • Awareness and sensitisation programmes and • Free genotype testing.	• Online fundraisers, • Medical consultations and • Counseling
8	Sparkle for Sickle Cell Foundation	• None	• Health educative posts • Creating awareness • Encourage sickle cell warriors.
9	Sickle Cell Aid Foundation	• Free genotype testing, • Blood drive, • Conducting sporting events for sickle cell warriors	• Online Live Programs, • Sharing of Patient's survival stories and; • Providing support for sickle cell patients.
10	Sickle Cell 101 Foundation	• Sickle cell awareness, • News and	• Providing evidence -based patient-friendly content to the sickle cell community.

Source: Fieldwork, 2022

Findings from the content analysis as presented in Table 3 provide answers to research question two. The summary of the contingency analysis revealed the social media advocacy campaign activities of non-governmental organisations that are related to sickle cell disease in Nigeria as follows:

1. **Sickle Cell Foundation Nigeria (SCFN):** The health advocacy organization is involved in posting informative and educational photos, and videos and organizing online conferences.
2. **Sickle Cell Support Society of Nigeria:** The health advocacy agency is involved in posting clinical research, capacity building for sickle cell patients, and advocacy

3. **Centre of Excellence in Sickle Cell Disorder:** The health advocacy organization is involved in research and training as well as sharing and dissemination of research findings aimed at the control of sickle cell.
4. **Sickle Cell Disorder Genomics Network of Africa (SickleGenAfrica):** The health advocacy organization is involved in posting and sharing comprehensive research findings
5. **Sickle Cell Cohort Research (SCORE):** The reproductive health advocacy research consortium is involved in organizing virtual conferences, and webinars.
6. **The Africa Sickle Cell Research Network (AfroSickleNet):** The health advocacy and research network is involved in conducting sickle cell research and sharing research findings.
7. **Samira Sanusi Sickle Cell Foundation (SCF):** The reproductive health advocacy foundation is involved in online fundraising, medical consultations, and online counselling.
8. **Sparkle for Sickle Cell Foundation:** The reproductive health foundation engages in posting educative posts that create awareness and encourage sickle cell warriors.
9. **Sickle Cell 101 Foundation:** The reproductive health foundation is involved in providing evidence-based, patient-friendly content to the sickle cell community.
10. **Sickle Cell Aid Foundation:** The reproductive health foundation is involved in live online programmes through sharing of patients' survival stories and providing mental and emotional support for the sickle cell community.

In summary, social media advocacy campaign activities of the reproductive health non-governmental organisations that are related to sickle cell disease in Nigeria include; the provision of support services for sickle cell disorder patients and, the sharing of informative and reproductive health educational content relating to sickle cell. Some of the contents are presented using multimedia such as graphics, videos, podcasts; and factsheets among others which are used in conveying advocacy campaign messages to the audience.

Further, the organisations are equally engaging in conducting comprehensive and evidence-based research and sharing findings that provide valuable information on the control and management of sickle cell disorder, organising virtual conferences, fundraisers, medical consultations, and online counselling.

Hypothesis

$H_0$1: There would be no significant influence of social media advocacy campaigns on the level of knowledge of sickle cell disease among undergraduates of Lead City University and Kola Daisi University.

Table 4 presents the Pearson Product Correlation analysis on the influence of social media advocacy campaigns on the level of knowledge of sickle cell disease among the selected undergraduates.

Table 4: Significant Influence of Social Media Advocacy Campaigns on the Level of Knowledge of Sickle Cell Disorder among Undergraduates of Lead City University and Kola Daisi University (N=323)

Correlations			
		Social Media Campaign	**Level of Knowledge**
Social Media Campaign	Pearson Correlation	1	.701**
	Sig. (2-tailed)		.000
	N	**323**	**323**
Level of Knowledge	Pearson Correlation	.701**	1
	Sig. (2-tailed)	.000	
	N	**323**	**323**
****. Correlation is significant at the 0.05 level (2-tailed).**			

Source: Fieldwork, 2022

Finally, to investigate the correlation between social media advocacy campaigns and the level of knowledge of sickle cell disease among undergraduates of Lead City University and Kola Daisi University, Pearson Product Correlation was also used with a two-tailed test of significance at $P<0.05$ level. The finding from Table 4 revealed the p-value or Sig. value is 0.00 which is less than the p-value (using default 5%). The Correlation (**) implies that it is significant at the $p<0.05$ level (2-tailed).

Therefore, the null hypothesis is rejected and the finding concludes that there is a significant relationship between social media advocacy campaigns and the level of knowledge of sickle cell disorder among undergraduates of Lead City University and Kola Daisi University. The sample correlation is 0.701 (social media advocacy campaigns correlate with the level of knowledge of sickle cell disorder at 0.701) which is positive and shows that the relationship is moderate (0.701; P=0.000). Hence, we reject hypothesis H_o1 which states that there would be no significant influence of social media Advocacy Campaigns on the level of knowledge of Sickle Cell Disorder among undergraduates of Lead City University and Kola Daisi University.

Therefore, the study concludes that there is a significant relationship (0.701; P=0.000) between social media advocacy campaigns and the level of knowledge of sickle cell disorder among undergraduates of Lead City University and Kola Daisi University.

Discussion of Findings

Findings from research question one revealed that there are ten reproductive health advocacy campaign organisations established within a space of twenty-five years in Nigeria, with an online presence and major visibility on three popular social media platforms namely; *Twitter*, *Instagram*, and *Facebook*. The organisations are vigorously involved in social media advocacy campaigns geared towards creating awareness and mobilizing support for health concerns using various social media platforms through sharing of informative and educative content relating to various topics on sickle cell disorder. The finding is in agreement with the findings of Hunter, De La Haye, Murray, Badham, Valente, Clarke, and Kee (2019) who reported that digital media technologies such as social media provide online platforms for raising awareness and mobilising support for health policy advocacy activities that result in social change through advocacy initiatives.

Additionally, the finding on research question two revealed that social media advocacy campaign activities of reproductive health non-governmental advocacy organisations that are related to sickle cell disease in Nigeria include; the provision of support services for sickle cell disorder patients, sharing of informative and reproductive health educational contents relating to sickle cell as well as engaging in activities that provide supports for people living with the disorder, sharing of new research reports and advocating for genotype testing before marriage in Nigeria. Some of the contents are presented using multimedia such as graphics, videos, podcasts, and factsheets among others, which are used in conveying advocacy campaign messages to the audience. The finding partly supports the position of Stellefson, Paige, Chaney, and Chaney (2020) which proposes that traditional advocacy strategies can be supplemented with social media channels to influence policy priorities in support of health policies, behavioural changes, and practices.

Further, the advocacy organisations are equally engaging in conducting comprehensive and evidence-based research and findings that provide valuable information through sharing of relevant outcomes on the control and management of sickle cell disorder, as well as organising virtual conferences, fundraising, medical consultations, and online counselling.

The finding aligns with the reports of Wang and Yang (2020) who postulated that social media remains one of the digital tools often used by media advocates because of the interactive features and widespread adoption that enables advocates to quickly disseminate such highly impactful health outcomes and advocacy information as well as to rally for supports from the public, especially the vulnerable.

Lastly, findings from the study on the hypothesis affirm that there was a significant relationship between social media advocacy campaigns and the level of knowledge of sickle cell disorder among undergraduates of Lead City University and Kola Daisi University. This finding agrees with the summation of a study conducted by Bou-Karroum, El-Jardali, Hemadi, Faraj, Ojha, Shahrour, Darzi, Ali, Doumit, Langlois, and Melki, (2017) which affirms that social media improves user interaction, offers peer support, and broadens access to health interventions with regards to the relationship between social media advocacy and health communication revealed. Again, the finding agrees with the study of Mheidly and Fares (2020) which also concludes that during public health emergencies, people's actions and reactions to a pandemic such as the recent COVID-19 pandemic are shaped by online information they gather as recipients or receivers.

Conclusion

Arising from the findings of this study, we conclude that social media advocacy campaigns are critical and essential in creating awareness and disseminating knowledge that informative about the control, prevention, and management of sickle cell disorder especially, among the vulnerable who are mostly young people of within the reproductive age in Nigeria. Empirically, the study identified within a space of twenty-five years, the establishment of ten non-governmental advocacy organisations that have been rigorously involved in social media advocacy campaigns through sharing of informative and educative content relating to various topics on sickle cell disorder; as well as engaging in activities that provide supports for people living with the disorder, sharing of new research reports and advocating for genotype testing before marriage in Nigeria. Again, within the purview of this study, there is proof from the data sets that advocacy campaigns using social media channels can greatly influence the level of knowledge of sickle cell disorder, especially among undergraduates in Nigeria.

Recommendations

Arising from the findings of this study, it is hereby recommended that:

1. Intensive reproductive health education via the use of social media channels should be reinforced to impact the propagation of knowledge about Sickle cell disorder, as this will help young people to make informed decisions and actions about their marriage choice.
2. Non-governmental health organisations, public health media advocates, and public relations agencies should pay attention to the use of social media advocacy campaigns in their efforts to create awareness and spread knowledge about sickle cell disorder.

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